PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Steven J. HARRINGTON

Application No.: New U.S. Application

Filed: January 16, 2002 Docket No.: 111086

For: SYSTEMS AND METHODS FOR GENERATING THRESHOLD ARRAY HALFTONE IMAGES WITH PARTIAL PIXEL POSITION RESOLUTION

PRELIMINARY AMENDMENT

Director of the U.S. Patent and Trademark Office
Washington, D. C. 20231

Sir:

Prior to initial examination, please amend the above-identified application as follows:

IN THE SPECIFICATION:

Please replace paragraph 0057 as follows:

[0057] Similarly, when using the third subrow 306, halftone dot patterns are generated that equally combine the threshold values of the two rows 201 and 202 of the halftone cell 200 shown in Fig. 3. Finally, when using the fourth subrow 308, only one of the high-addressability pixels 312 has a threshold value that is the same as the threshold value in the correspondingly-positioned pixel or subpixel 210 of the one row 201 or 202 of the halftone cell 200. The other three high-addressability pixels 312 in each pixel or subpixel 311 have threshold values that correspond to the threshold values in the other one of the rows 201 or 201, respectively, of the halftone cell 200. As a result, in effect, shifting the halftone position along the low-addressability direction is accomplished by shifting the selection of the subrows in the interpolated halftone pattern shown in Fig. 6. This is illustrated in Figs. 7-

10, which indicate the particular threshold values that will be used for each of the high-addressability pixels 312 depending on which ones of the subrows 302-308 are selected.

REMARKS

Claims 1 - 17 are pending. By this Preliminary Amendment, the specification is amended to correct minor informalities. Prompt and favorable examination on the merits is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten paragraph (37 C.F.R. §1.121(b)(1)(iii)).

Respectfully submitted,

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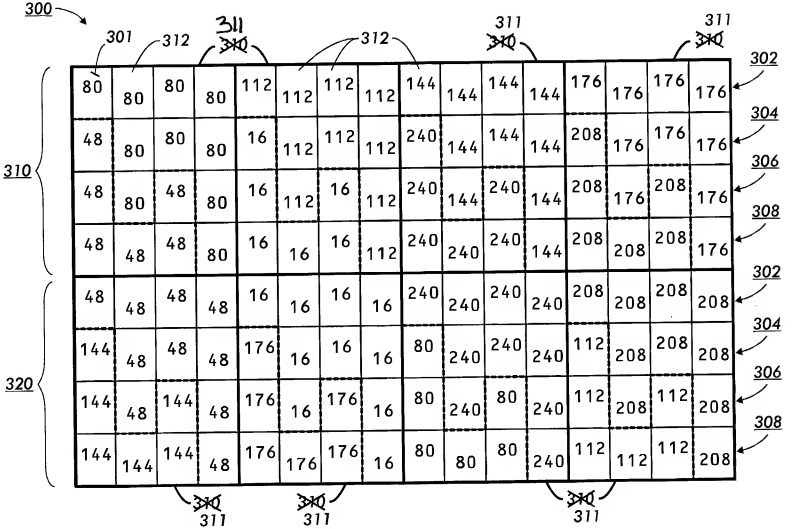
APPENDIX

Changes to Specification:

The following is a marked-up version of the amended paragraph:

[0057] Similarly, when using the third subrow 306, halftone dot patterns are generated that equally combine the threshold values of the two rows 201 and 202 of the halftone cell 200 shown in Fig. 3. Finally, when using the fourth subrow 308, only one of the high-addressability pixels 312 has a threshold value that is the same as the threshold value in the correspondingly-positioned pixel or subpixel 210 of the one row 201 or 202 of the halftone cell 200. The other three high-addressability pixels 312 in each pixel or subpixel ~~310~~ 311 have threshold values that correspond to the threshold values in the other one of the rows 201 or 201, respectively, of the halftone cell 200. As a result, in effect, shifting the halftone position along the low-addressability direction is accomplished by shifting the selection of the subrows in the interpolated halftone pattern shown in Fig. 6. This is illustrated in Figs. 7-10, which indicate the particular threshold values that will be used for each of the high-addressability pixels 312 depending on which ones of the subrows 302-308 are selected.


300
301
312
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302
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306
308
310
320
80 80 80 80 112 112 112 112 144 144 144 144 176 176 176 176
48 80 80 80 16 112 112 112 240 144 144 144 208 176 176 176
48 80 48 80 16 112 16 112 240 144 240 144 208 176 208 176
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144 48 48 48 176 16 16 16 80 240 240 240 112 208 208 208
144 48 144 48 176 16 176 16 80 240 80 240 112 208 112 208
144 144 144 48 176 176 176 16 80 80 80 240 112 112 112 208
311
311
311

FIG. 6

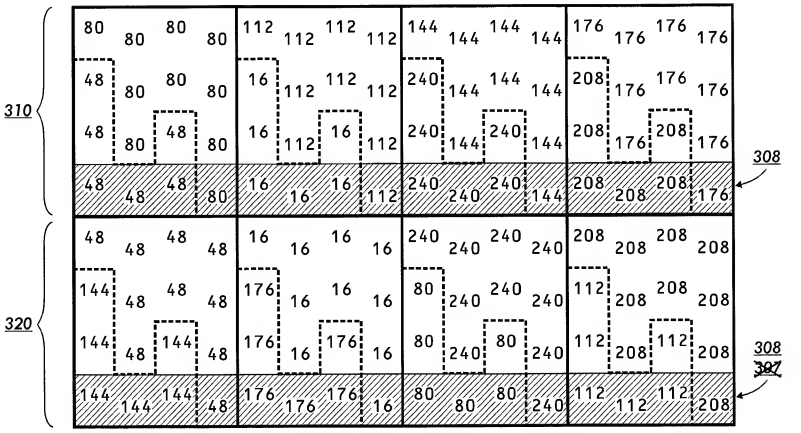

FIG. 10

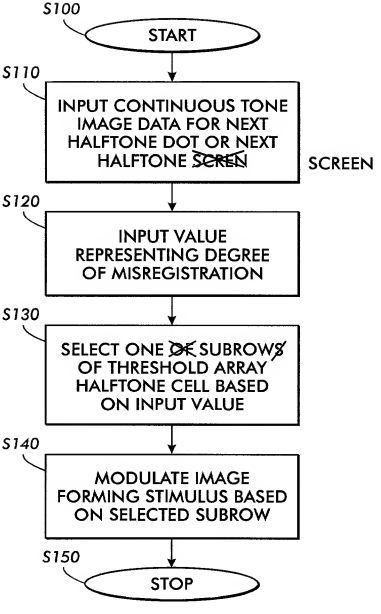
S100
START
S110
INPUT CONTINUOUS TONE IMAGE DATA FOR NEXT HALFTONE DOT OR NEXT HALFTONE SCREEN
SCREEN
S120
INPUT VALUE REPRESENTING DEGREE OF MISREGISTRATION
S130
SELECT ONE OF SUBROWS OF THRESHOLD ARRAY HALFTONE CELL BASED ON INPUT VALUE
S140
MODULATE IMAGE FORMING STIMULUS BASED ON SELECTED SUBROW
S150
STOP

FIG. 13